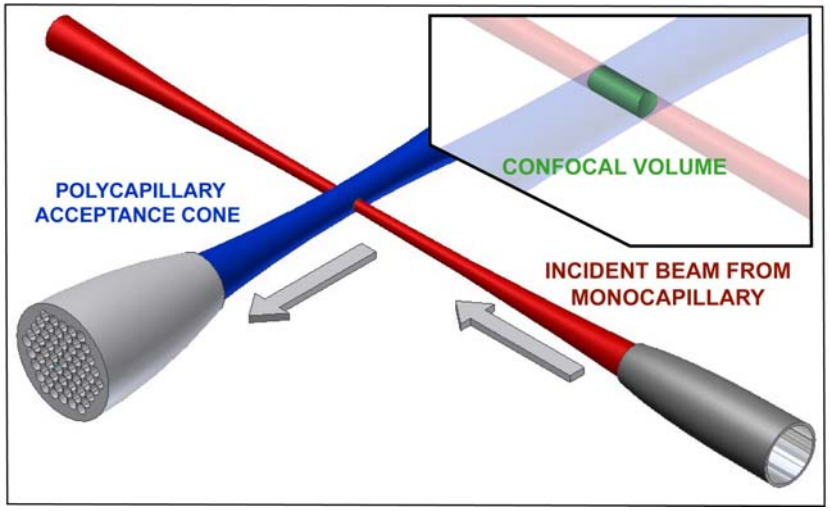
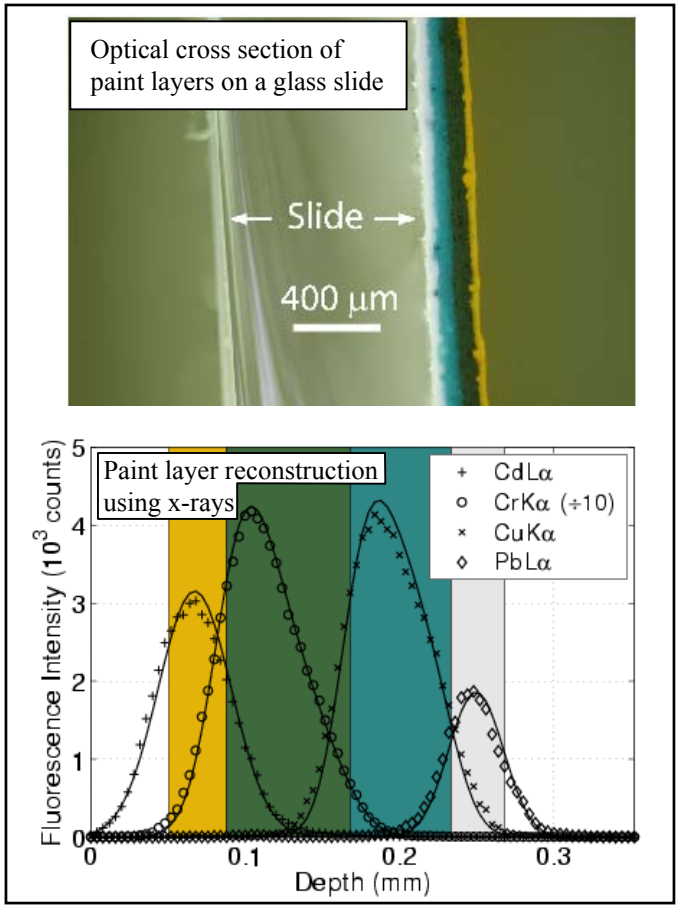
Development of a confocal x-ray fluorescence microscope for characterization of buried layers in historic paintings

Arthur Woll, Don H. Bilderback, Sol M. Gruner (CHESS, Cornell University), and Jennifer Mass (University of Delaware and The Winterthur Museum) -- **DMR-0415838**



A new tool for materials science, conservation scientists, and students: This award provides the resources necessary to develop a state-of-the-art x-ray microscope for 3D elemental characterization of buried layers in antique paintings and other layered materials.



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This project represents a collaboration among Cornell University, the Cornell High Energy Synchrotron Source, the University of Deleware, and the Winterthur Museum. It will result in a valuable resource for students, art conservators, and materials scientists alike.

University of Delaware art conservation student Christina Biscula and Staff Scientist Arthur Woll at CHESS station D1

17th C. Dutch portrait by Matthias Stomer. Outstanding questions regarding Stomer's modeling techniques have been proposed for examination using the confocal x-ray microscope.